

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Original) A method of treating a cornea of an eye of a patient to mitigate presbyopia, the eye having a pupil and a cornea, the method comprising:

identifying a multifocal ablation shape having a first region providing a near vision correction and a second region providing a far vision correction;

adjusting an ablation cut profile of the multifocal ablation shape in response to the size of the pupil so as to provide a balance of the near vision correction provided by the first region and the far vision correction provided by the second region for the patient;

ablating the eye with a series of laser beam pulses according to the adjusted ablation cut profile.

2. (Original) The method of claim 1, wherein the ablation cut profile further comprises a third region providing an intermediate optical surface having an optical power continuously varying between the first region providing near vision correction and the second region providing far vision correction, so as to provide intermediate vision correction with the intermediate optical surface.

3. (Original) The method of claim 2, wherein the intermediate optical surface varies from a first optical power near the first region to a second optical power near the second region.

4. (Original) The method of claim 3, wherein the difference in optical power between the first optical power near the first region and the second optical power near the second region has a range from about 1 to 4 D.

5. (Original) The method of claim 1, wherein the first region is disposed centrally in relation to the pupil of the eye.

6. (Original) The method of claim 1, further comprising scaling the ablation cut profile in relation to the size of the pupil.

7. (Original) The method of claim 6, wherein the step of scaling of the ablation cut profile is done so as to scale the optical power of the ablation cut profile in relation to the size of the pupil.

8. (Original) The method of claim 7, wherein the optical power of the first region remains constant during the step of scaling.

9. (Original) The method of claim 7, wherein the optical power of the second region remains constant during the step of scaling.

10-15. (Canceled).

16. (New) A method of treating a cornea of an eye of a patient to mitigate presbyopia, the eye having a pupil and a cornea, the method comprising:

identifying a multifocal ablation shape having a first region providing a near vision correction and a second region providing a far vision correction;

adjusting an ablation cut profile for both the first region and the second region of the multifocal ablation shape in response to the size of the pupil so as to provide a balance of the near vision correction provided by the first region and the far vision correction provided by the second region for the patient;

ablating the eye with a series of laser beam pulses according to the adjusted ablation cut profile.

17. (New) A system for treating a cornea of an eye of a patient to mitigate presbyopia with a multifocal ablation shape, the eye having a pupil and a cornea, the system comprising:

a laser for making a beam of an ablative light energy;

a processor in electrical communication with the laser; and

a tangible medium coupled to the processor and having stored instructions that, if executed by the processor, will cause the processor to perform operations comprising:

controlling a distribution of a series of laser beam pulses to ablate the multifocal shape on the eye, the multifocal ablation shape producing a first region of the cornea providing a near vision correction and a second region of the cornea providing a far vision correction; and

determining the distribution of laser beam pulses to ablate the first and second regions of the multifocal ablation shape, where the distribution of laser beam pulses for ablating both the first and second regions are determined in response to a signal related to a size of the pupil so as to balance the near vision correction and the far vision correction of the multifocal treatment for the patient.

18. (New) The system of claim 17, wherein the first region providing near vision correction is disposed centrally in relation to the pupil of the eye.

19. (New) The system of claim 17, wherein the near vision correction and the far vision correction are balanced with a variable of a refractive correction in response to the size of the pupil.

20. (New) The system of claim 19, wherein the variable of the refractive correction includes a dimension across the refractive correction .

21. (New) The system of claim 17, wherein the near vision correction and the far vision correction are balanced in response to the size of the pupil so as to scale a dimension across the first region providing near vision correction in relation to the size of the pupil.

22. (New) The system of claim 17, wherein the near vision correction and the far vision correction are balanced in response to the size of the pupil so as to scale a dimension across the second region providing far vision correction in relation to the size of the pupil.